| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/068,676 | HAGH-PANAH ET AL. | |
| | Examiner | Art Unit | |
| | Joseph D. Torres | 2133 | |

***-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--***

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the Notice of Appeal Filed 08/12/2005*.

2. ☒ The allowed claim(s) is/are *1-5 and 11-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

JOSEPH TORRES
PRIMARY EXAMINER

Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133

## REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance:

The present invention pertains to a method of performing a cyclic redundancy check (CRC) calculation on a data stream composed of one or more segments of data. Claim 1 recites various features:

"determining which one of the plurality of CRC modules should be used for processing a segment of data currently supplied to the multiple-byte CRC circuit;

after said step of determining, processing the segment of data using only the CRC module determined appropriate for the current segment of data, wherein said step of processing comprises performing the CRC calculation on the current segment of data to produce CRC calculation results for the current cycle; and

if more segments of data remain in the data stream, repeating the steps of determining and processing until there are no more segments of data to process."

The Prior Art of record teaches, and in particular Kimmitt teaches supplying the data stream, one data segment per cycle, to a multiple-byte cyclic redundancy check (CRC) circuit comprising a plurality of CRC modules (MUX 104 in Figure 7 of Kimmitt supplies a data stream in 4 byte segments, 32 bits at a time), wherein each of the CRC modules is configured to perform the CRC calculation on a different number of bytes of data during a single cycle (col. 15, lines 18-32; col. 16, lines 1-3 and col. 16, lines 23-27 in Kimmitt teaches that CRC 32 module 100d generates CRC for 4 bytes of data during deassertion of the last word signal 109 in Figure 7, that is, while last word signal 109 in Figure 7 is deasserted CRC Controller State Machine 106 determines that only CRC 32

module 100d is used; The CRC module comprising modules 100a-100c are a termination module for either 1, 2 or 3 bytes; Note: CRC 24 module 100c generates CRC for 3 bytes of data, CRC 16 module 100b generates CRC for 2 bytes of data and CRC 32 module 100a generates CRC for 1 byte of data); determining which one of the plurality of CRC modules should be used for processing a segment of data currently supplied to the multiple-byte CRC circuit (col. 16, lines 23-27 in Kimmitt teach that the last word signal 109 is used for determining which one of the CRC modules 100d or 100a-100c should be used for processing the segment of data currently supplied to the Multi-byte CRC circuit 100; col. 16, lines 1-3 in Kimmitt explicitly teach that only CRC module 100d processes data in 4-byte data segments until the last segment of data is reached whereby CRC Controller State Machine 106 uses the size of the last segment to determine which one of CRC modules 100a-100d will be used to process the last group of incoming bits). The prior art however are not concerned with and do not teach, suggest, or otherwise render obvious the steps of "determining which one of the plurality of CRC modules should be used for processing a segment of data currently supplied to the multiple-byte CRC circuit; after said step of determining, processing the segment of data using only the CRC module determined appropriate for the current segment of data, wherein said step of processing comprises performing the CRC calculation on the current segment of data to produce CRC calculation results for the current cycle; and if more segments of data remain in the data stream, repeating the steps of determining and processing until there are no more segments of data to process as taught by claim

1. Hence the prior art taken alone or in any combination fail to teach the claimed novel feature in claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JOSEPH TORRES
PRIMARY EXAMINER

Joseph D. Torres, PhD
Primary Examiner
Art Unit 2133